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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,142	03/29/2001	Alireza Raissinia	CISCP674	8677

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SARATOGA, CA 95070

EXAMINER

LY, ANH VU H

ART UNIT	PAPER NUMBER
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2667

DATE MAILED: 08/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/823,142

Applicant(s)

RAISSINIA ET AL.

Examiner

Anh-Vu H Ly

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonas et al (US Pub 2002/0036985 A1) in view of Hulyalkar et al (US Patent No. 6,069,901). Hereinafter, referred to as Jonas and Hulyalkar.

With respect to claims 1, 5, 7-8, 11, 13-16, 20, and 22, Jonas discloses in Figs. 1 and 2, a point to multipoint DOCSIS system comprising a head-end communicating with a plurality of end-points (a point to multipoint network operating according to a DOCSIS based MAC protocol). Jonas discloses in page 1, 14th and 15th, that the head-end (central access point) periodically transmits information regarding available upstream channels and their parameters on the downstream channel. The head-end (central access point) transmits the time interval allocations (allocated slot) on the downstream channel in a message called MAP. A single MAP message describes time interval allocation on a single upstream channel for a specific period of time. This means that the end-point transmits data only during the allocated time intervals (transmitting data to a central access point during a directed grant slot allocated to the subscriber). Jonas does not disclose monitoring MAP messages broadcast by the central access point to detect acknowledgement of receipt of data and if no acknowledgement of receipt is indicated by MAP messages, retransmitting the data. Hulyalkar discloses (col. 2, lines 28-34)

Art Unit: 2667

that the wireless broadcast protocol typically requires the intended receiver (central access point) to acknowledge (ACK) the receipt of each message. If it doesn't receive the message or receives a garbled message, it doesn't transmit the acknowledgement or transmits a Not-Acknowledged (NAK) signal. If the transmitter (subscriber) fails to receive an acknowledgement (monitoring MAP messages broadcast by central access point to detect acknowledgement of receipt of data), it retransmits the prior message (if no acknowledgment of receipt is indicated by MAP messages retransmitting data). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the features of sending ACK or NAK in MAP message and retransmitting previous sent data in Jonas' system, as suggested by Hulyalkar, to recover lost data.

With respect to claims 2, 9, and 17, Jonas discloses in Figs. 1 and 2, a point to multipoint DOCSIS system comprising a head-end communicating with a plurality of end-points. Jonas does not disclose wherein non-receipt is indicated by MAP messages if a MAP message is received with a timestamp later than directed grant slot and no acknowledgement is received. Hulyalkar discloses (col. 2, lines 28-34) that the wireless broadcast protocol typically requires the intended receiver to acknowledge (ACK) the receipt of each message. If it doesn't receive the message or receives a garbled message, it transmits a Not-Acknowledged (NAK) signal. Herein, the NAK is sent only at a time that is later than the allocated time interval since the central access point expects to receive the data from the end-point at the allocated time slot. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include receiving a NAK message in Jonas' system, as suggested by Hulyalkar, to indicate that data is not properly received and retransmission is needed.

Art Unit: 2667

With respect to claims 3, 8, and 18, Jonas discloses in Figs. 1 and 2, a point to multipoint DOCSIS system comprising a head-end communicating with a plurality of end-points. Jonas does not disclose after transmitting data to the central access point, storing data in an ARQ buffer for possible retransmission. Hulyalkar discloses (col. 2, lines 28-34) that if the transmitter fails to receive an acknowledgement, it retransmits the prior message. Herein, the transmitter must store the prior message in a buffer or queue for later retransmissions. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a buffer or queue to store transmitted data in Jonas' system, as suggested by Hulyalkar, to retransmit previous sent data when necessary.

With respect to claims 4, 6, 10, 12, 19, and 21, Jonas discloses in Figs. 1 and 2, a point to multipoint DOCSIS system comprising a head-end communicating with a plurality of end-points. Jonas does not disclose storing data comprising storing data only if communication of data is delay tolerant. Hulyalkar discloses (col. 2, lines 28-34) the use of ACK or NAK to verify whether data is received properly and retransmit data if necessary. Therefore, ARQ is mostly implemented on systems wherein transmitted data is delay tolerated since it takes time to resend the data. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include storing delay tolerated data in Jonas' system, as suggested by Hulyalkar, since retransmissions on sensitive data and delay intolerant such as voice is not tolerated.

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Belostotsky et al (US Pub 2002/0052205 A1) discloses quality of service scheduling scheme for a broadband wireless access system.


Bunn et al (US Pub 2002/0080868 A1) discloses cable modem system and method for supporting extended protocols.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H Ly whose telephone number is 703-306-5675. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 703-305-4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

avl


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 8/9/04